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# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE •



October 23, 1937

Electricity on the Farm

See Page 260

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## SCIENCE NEWS LETTER

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Edited by WATSON DAVIS

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## BOOKS

BOOKS—the protectors of civilization's stores of accumulated knowledge—are also the torch-bearers leading the procession of research toward new scientific frontiers. In the pages of this week's SCIENCE NEWS LETTER, readers will find listed the latest offerings of those who are in the forefront of the march of research. Some are already published; others are still on the presses. The issue will serve you well as a comprehensive bibliography of current works of science.

## GENETICS

## Rats Lose Cancer Tendency, Rabbits Gain Extra Ribs

CANCER in rats, to which some strains appear to be highly susceptible and to inherit their susceptibility, has been all but suppressed in their descendants by carefully selecting the more resistant individuals and breeding them, it was reported before the meeting of the Genetics Society of America, at Woods Hole, Mass., by a three-man research team from the University of Wisconsin. The group consisted of Prof. Michael F. Guyer and Drs. F. E. Mohs and P. E. Claus.

The original rat strain proved susceptible to transplantable cancer in over 84 per cent. of its individuals. After the course of breeding, the "takes" amounted to only six per cent in the eighth to thirteenth generations. Further experiments are planned, to test the relative resistance of the two strains to other types of cancer and to cancer-causing chemicals.

Adam lost a rib in the process of getting a mate, Genesis tells us; but having selected mates with the proper Mendelian set-up has given extra ribs to rabbits in the laboratories at Brown University, Dr. E. L. Green reported. Ordinary rabbits have twelve ribs apiece, but one family of Dr. Green's rabbits have thirteen ribs apiece as a regular hereditary trait. Extra joints in the backbone seem to go with extra ribs: the thirteen-ribbed rabbits have seven lumbar vertebrae, the twelve-ribbed ones only six.

Corn is very changeable, unstable stuff, genetically speaking. The importance of this fact was discussed by Dr. H. C. Eyster, of the Carnegie Institution of Washington. One varying tendency alone, a mutation to albino leaves green only at the tips, he observed in more than one per cent of the seedlings

in a Pennsylvania field. In an earlier study, 40 spontaneous gene variations were noted in one commercial strain of corn. In breeding corn, Dr. Eyster pointed out, it is important to keep close check to make sure which changes are due to the breeder's own efforts and which are arising spontaneously.

X-rays cause changes in the hereditary makeup of organisms, but their effect seems to be indirect rather than direct. Dr. M. Demerec of the Carnegie Institution of Washington told a round-table meeting of the Society. As a result of earlier experiments, a Russian researcher had come to the conclusion that the changes were due to direct hits of electrons upon genes.

In Dr. Demerec's experiments, different strains of the little insect *Drosophila* were subjected to similar X-ray treatments through a range of five different intensities. One strain responded almost twice as readily as another to this treatment, in the number of mutations obtained. This, in Dr. Demerec's interpretations, indicates the existence of a biological factor that influences the effect of X-rays on heredity.

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## ● RADIO

October 26, 5:30 p. m., E.S.T.

ANCIENT CHINA—Carl W. Bishop of the Freer Gallery of Art.

November 2, 5:30 p. m., E.S.T.

LIVING UNDER THE SEA—Capt. E. W. Brown of the U. S. Naval Medical School.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.

## MEDICINE

# Rheumatism Can Be Cured By Early, Adequate Treatment

Arthritis Never Kills But Affects Fifteen Times As Many Over 40 as Does Tuberculosis; Is Costly

**R**HEUMATISM can be cured if patients are treated sufficiently early and thoroughly.

And rest and freedom from worry are the most important features in the regimen that American Public Health Association members in New York were urged to apply in order that this disease may be battled with effectiveness equal to that of the tuberculosis campaign.

A rest cure for the rheumatic in a specially equipped sanitarium was urged by Drs. Edward F. Hartung, William Von Stein and Margaret Straub Neil, of the New York Post Graduate Hospital and Graduate School. The rheumatism or arthritis patient needs this type of care just as much as the tuberculosis patient. Home and clinic treatment, all that is now available, is not so satisfactory.

In addition to rest and freedom from worry, these measures are recommended:

Exercise and massage, carefully adapted to each patient's needs; correction of posture defects, infected teeth, and digestive disorders; sunshine or ultra-violet light treatment.

Arthritis never kills, consequently it gets little attention from health work-

ers, doctors and the public. But this disease always cripples unless treated in time. More than twice as many persons of all ages suffer from arthritis as from tuberculosis. After the age of 40 more than 15 times as many suffer from arthritis as from tuberculosis.

Arthritis or rheumatism causes more time lost from work than diabetes, cancer or hardening of the arteries. One case of rheumatism in a family may take more than half the family income to pay for treatment and in loss of income because of disability.

The deformities caused by rheumatism could be prevented if the patients got treatment after the bone changes occurred but before crippling set in. Even those already crippled can be helped to regain some use of their disabled hands or legs.

The treatment takes a long time, just as in tuberculosis. From six months to two years may be necessary. Unfortunately, the New York doctors pointed out, there are no such sanatoria where the rheumatism patients can get this treatment for nothing or at slight cost, as there are for tuberculosis patients.

*Science News Letter, October 23, 1937*

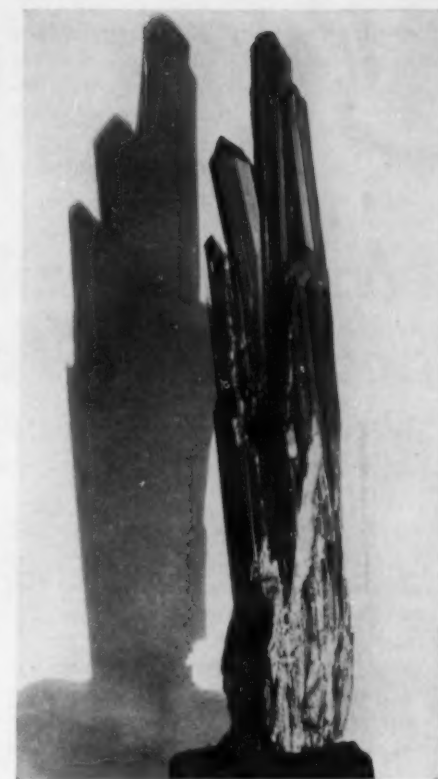
## GENETICS

# Artificial Fertilization Used On Gnat-Sized Insects

**A**RTIFICIAL fertilization methods have been successfully applied for the first time to tiny fruit-flies or *Drosophila*, insects no larger than gnats, by Dr. G. Gottschewski of the Kaiser-Wilhelm Institute for Biology, Berlin-Dahlem, at present working in the laboratories of the California Institute of Technology. Methods of this kind have been heretofore used to some extent with cattle, sheep, and other mammals; experimentally also with poultry; but the smallest animal hitherto artificially inseminated has been the queen honey bee

—a creature gigantic in comparison with *Drosophila*.

The procedure involves a sort of little tragic triangle. To obtain the male fertilizing fluid, it is necessary to permit a normal mating to take place. Then the female is killed and the sperm is removed from her body with the more-than-hair-fine glass tube of a micro-manipulator. It is then introduced into the body of an unmated female. The whole process has to be carried out under a microscope, and thus far the percentage



COLUMNAR CRYSTALS

*Suggesting the lines of a modern skyscraper, this group of crystals of stibnite (antimony sulfide) from Ichinakawa, Japan, shows the great beauty of mineral crystals. Once prized as a cosmetic, and still used by Arabian women as eye-shadow, this mineral supplies the metal antimony, which is used in type-metal to control the shrinkage rate and insure sharp type. Metallic-appearing when first mined, these crystals become dull after exposure to light. This specimen is on exhibition at the Philadelphia Academy of Sciences. Stibnite is mined in Iyo province, Japan; Haut-Loire, France; Baia Sprie, Rumania, and Altar, Sonora, Mexico.*

of successful transfers of sperm has been relatively low.

The significance of Dr. Gottschewski's experiments is entirely scientific, but the results may be very important in the field of genetics. *Drosophila* is classic material for the study of mendelian inheritance, especially since the discovery that hereditary units, or genes, can be rearranged by X-ray bombardment. Hitherto X-raying has had to be done on living animals, but through Dr. Gottschewski's technique it is now possible to apply the X-rays directly to the germ-plasm itself outside the body without involving any other tissues and thereby perhaps obtaining confused results.

The technique also makes possible



the production of hybrids between strains of insects physically unable to mate in the natural way. Such insects are frequently of interest from a genetical point of view, but since reproduction has never been possible the way has hitherto

been barred to laboratory experiments.

Dr. Gottschewski describes his method and discusses its significance in the German science journal, *Die Naturwissenschaften*.

*Science News Letter, October 23, 1937*

#### ENGINEERING

## Movies Have 3 Dimensions In Sound As Well As Sight

**Stereophonic Film Viewed With Polaroid Glasses, Each Lens Polarized Differently, Gives New Depth**

THREE-dimensions in both sight and sound are added to the movies by demonstrations before the Society of Motion Picture Engineers meeting in New York City.

The motion picture of the future thus promises to have the "depth" or perspective of real life with the sound localized as it is from a stage or actual scene.

The sound perspective or "stereophonic" movies were shown by J. P. Maxfield of Electrical Research Products, New York, while the three-dimensional movies produced by use of polarized light were demonstrated by G. W.

Wheelwright of the Land-Wheelwright Laboratories, Boston.

By adding sight and sound perspective to the conventional color and faithful sound of today's theatrical movies, themselves hardly a decade old, the motion pictures of a few years in the future promise to reproduce all attributes of the senses of sight and sound. With such progress already made, it may not be too much to expect smell, taste and feeling to be portrayed by equipping future theaters with subtle perfumes, synthetic food pellets to be consumed at the proper time and auditoriums wired in some manner that would ap-

peal to the spectators' sense of touch!

The sound perspective movies are a development of the three-dimensional sound system demonstrated a few years ago by Bell Telephone Laboratories before the National Academy of Sciences. It consists of two independent sound systems that feed two loud speakers so arranged that the sound from the screen is given direction and depth. On this new stereophonic film, two sound tracks are squeezed into the space on the film where one is usually placed. Theaters to use the new system would need to have two sound systems instead of one.

Actors gave a fast-moving skit and an orchestra played in Mr. Maxfield's demonstration to show the assembled engineers what sound perspective can do for future movie productions. A year or so in the future the public may be presented the first stereophonic dramatic production.

The movies that are three-dimensional in sight utilize polarized light to produce the effect. The audience wears glasses with lenses of Polaroid, a synthetic substance that cuts out all light except that which vibrates in one direction. One lens is blind to all the light that the other lens can see. In taking the Polaroid movies, two cameras are used with similar lenses, and the projector has a similar optical system. Two movies are flashed on the screen simultaneously, but each eye can see only one. The two movies are taken from distances apart similar to the spacing of the human eyes. The principle is that of the old, successful and simple stereoscope that a generation ago graced the parlor table. The actors and scenes appear as though in three dimensions.

*Science News Letter, October 23, 1937*



STONE AGE STRIFE IN SPAIN

There has been hard fighting in the hills of Spain before, if the above drawing, copied from the walls of a cavern in the western part of the peninsula, is a dependable record. Here, the little fellows seem to be getting all the better of the argument, and their bulkier opponents are interested only in making their escape.

#### ENGINEERING

## Two-Way Electric Plow In Use in Soviet Russia

See Front Cover

THE large hydroelectric plan on the Dneiper River in Russia's Dnepropetrovsk province, makes it possible for them to use electric farm equipment like the two-way plow shown on the front cover of this week's *SCIENCE NEWS LETTER*.

No tractor is attached to the plow, which can reverse and travel in either direction. It is particularly useful on large areas of flat ground without rock like that on which the implement is pictured.

*Science News Letter, October 23, 1937*

# NEW BOOKS ON SCIENCE

Science News Letter presents a comprehensive list of scientific books published or to be published between July 1 and December 31, 1937. All information is believed to be correct but is not guaranteed. Prices are listed where known. Prices marked \* are tentative.

## Aeronautics

- ABC OF AVIATION, 1937 ed.—Page—*Henley*, \$1.50\*.  
 AERONAUTICAL METEOROLOGY—George Taylor—*Pitman*.  
 AIRPLANE MAINTENANCE—J. E. Younger, A. F. Bonnalie and N. F. Ward—*McGraw*, \$3.  
 AIRPLANE SERVICING MANUAL—Page—*Henley*, \$5\*.  
 BOY'S BOOK OF FLYING: The Latest in the Air—Charles Boff—*Dutton*, \$2.  
 EVERY BOY'S BOOK OF AIRCRAFT—Eric Sargent—*Appleton*, \$1.50.  
 EVERY BOY'S BOOK OF FIGHTING PLANES—David W. Tyrell—*Appleton*, \$1.50.  
 FLYING VISTAS—Isaac H. Jones—*Lippincott*, \$2.  
 LOST FLIGHTS OF GUSTAVE WHITEHEAD—Stella Randolph—*Places, Inc.*, \$2.  
 METAL AIRPLANE STRUCTURES—Loudy—*Henley*, \$5\*.  
 NAVY WINGS—Harold Blaine Miller—*Dodd*, \$3.  
 NEW MODEL AIRPLANES, Rev.—Elmer Allen—*Stokes*, \$3.  
 THE STORY OF THE WINGED-S—Igor I. Sikorsky—*Dodd*, \$3.  
 WORLD FLIGHT—Amelia Earhart—*Harcourt*, \$2.50\*.  
 ZEPPELIN—E. A. Lehmann—*Longmans*, \$3.

## Archaeology, Anthropology

- AFRICAN GENESIS—Leo Frobenius and Douglas C. Fox—*Stackpole*, \$3.75.  
 THE AMERICAN INDIAN—Clark Wissler—*Oxford*, \$5\*.  
 AMERICA'S YESTERDAY—F. Martin Brown—*Lippincott*, \$3.50.  
 ANCIENT CAVES OF THE GREAT SALT LAKE REGION—Julian H. Steward—*Smithsonian*, 25c.  
 APES, MEN AND MORONS—Earnest Hooton—*Putnam's*, \$3.  
 ARCHAEOLOGICAL RECONNAISSANCES in North-Western India and South-Eastern Iran—Sir Aurel Stein—*Macmillan*, \$22.50.  
 ARCHAEOLOGY OF ST. LAWRENCE ISLAND, ALASKA—Henry B. Collins, Jr.—*Smithsonian*, \$2.  
 A CHILD'S STORY OF THE WORLD: FROM THE EARLIEST DAYS TO OUR OWN TIMES—Donald Culross Peattie—*Simon and Schuster*, \$2.50.  
 COCLE, An Archaeological Study of Central Panama—Samuel Kirkland Lothrop and others—*Peabody Mus. of Harvard U.*, \$12.50 cloth, \$10 paper.  
 CULTURE ELEMENT DISTRIBUTIONS: IV. POMO—E. W. Gifford and A. L. Kroeber—*U. Calif.*, \$1.50.  
 DOCUMENTS ON ATHENIAN TRIBUTE—Benjamin Dean Merritt—*Harvard*.  
 EARLY MAN—George Grant MacCurdy—*Lippincott*, \$5.  
 THE ETHNOGRAPHY OF THE TANAINA—Cornelius Osgood—*Yale*, \$3.  
 EXCAVATIONS AT THE ARGIVE HERAEUM—C. W. Blegen—*Cambridge (Macmillan)*, \$25\*.  
 HANDBOOK OF NORTHERN ARIZONA POTTERY WARES—H. S. Colton and L. L. Hargrave—*Northern Arizona Soc. Science & Arts*, \$4.  
 A HISTORICAL, POLITICAL, AND NATURAL DESCRIPTION OF CALIFORNIA BY PEDRO FAGES—Tr. by H. I. Priestley—*U. Calif.*, \$1.50.

- INDIAN SITES BELOW THE FALLS OF THE RAPPAHANNOCK, VIRGINIA—David I. Bushnell, Jr.—*Smithsonian*, 75c.  
 INDIANS OF THE RIO GRANDE VALLEY—Hewett and Bandelier—*U. N. Mex.*\*  
 MAPUNGBUWE: ANCIENT BANTU CIVILIZATION ON THE LIMPOPO—L. Fouché—*Cambridge (Macmillan)*.  
 ORIGIN OF THE NAVAHO ENEMY WAY—Father Berard Haile—*Yale*, \$3.50.  
 PREHISTORIC MAN—H. Field—*Field Mus.*, 25c.  
 PRIMITIVE INTELLIGENCE AND ENVIRONMENT—S. D. Porteus—*Macmillan*, \$3.  
 PRIMITIVE RELIGION—Paul Radin—*Viking*, \$3.50.  
 RACE: A STUDY IN MODERN SUPERSTITION—Jacques Martin Barzun—*Harcourt*, \$2.50.  
 RACES OF MANKIND—H. Field—*Field Mus.*, 25c.  
 RELIGION AND SOCIAL ORGANIZATION IN CENTRAL POLYNESIA—R. W. Williamson—*Cambridge (Macmillan)*, \$10\*.  
 THE RENGMA NAGAS—J. P. Mills—*Macmillan*, \$9.  
 SANDPAINTINGS OF THE NAVAJO SHOOTING CHANT—Gladys A. Reichard and Francis Newcomb—*Augustin*, \$36.  
 SAVAGE CIVILIZATION—Tom Harrison—*Knopf*, \$4.  
 THE SAVAGE HITS BACK—Julius Lips—*Yale*, \$5.  
 SOURCE BOOK FOR AFRICAN ANTHROPOLOGY—W. D. Hambly—*Field Mus.*  
 SPIRITUAL FOLK-SONGS OF EARLY AMERICA—George Pullen Jackson—*Augustin*, \$5.50.  
 THE STONE AGE OF MOUNT CARMEL, Vol. 1—D. A. E. Garrod and D. M. Bate—*Oxford*, \$16\*.  
 TEMPLE DOCUMENTS FROM UMMU OF THE THIRD DYNASTY OF UR—George Gottlob Hackman—*Yale*, \$5.  
 TOMBS, TRAVEL AND TROUBLE—Lawrence Griswold—*Hillman-Curl*, \$3.  
 A TRIBAL SURVEY OF MONGALLA PROVINCE—L. F. Nalder—*Oxford*, \$5.50.  
 WINONA VILLAGE: AN ARCHAEOLOGICAL STUDY OF A SMALL ISLAND OF CULTURE—J. C. McGregor—*Northern Arizona Soc. Science & Arts*, 80c.  
 THE YOUNGE SITE: An Archaeological Record from Michigan—E. F. Greenman, F. Matson and B. Hughes—*U. Mich.*, \$2.25.

## Astronomy

- ASTRONOMICAL THOUGHT IN THE ENGLISH RENAISSANCE—F. R. Johnson—*Johns Hopkins for the Huntington Lib.*  
 ASTRONOMY FOR THE MILLIONS—Van Den Berg—*Dutton*, \$3.50, educ. ed. \$2.75\*.  
 ECLIPSES OF THE SUN AND MOON—Sir Frank Dyson and R. v. d. R. Woolley—*Oxford*, \$5.  
 EXPLORING THE HEAVENS—Clyde Fisher—*Crowell*, \$2.50.  
 INTRODUCING THE CONSTELLATIONS—Robert H. Baker—*Viking*, \$2.50.  
 THE OBSERVATIONAL APPROACH TO COSMOLOGY—E. P. Hubble—*Oxford*, \$2.50\*.  
 OUR STARS: MONTH BY MONTH—Mary Proctor—*Warne*, \$1.  
 PAGEANT OF THE HEAVENS—F. W. Grover—*Longmans*, \$3.  
 THE ROMANCE OF ASTRONOMY: The Music of

the Spheres (Reissue in Imperial Editions at reduced price)—Florence Armstrong Grondal—*Macmillan*, \$1.79.

SUN SPOTS AND THEIR EFFECTS—H. T. Stetson—*McGraw*.

## Biology

- ASCARIS: The biologist's story of life—Richard Goldschmidt—*Prentice-Hall*.  
 BACTERIOLOGICAL ATLAS—Muir—*Williams & Wilkins*, \$5.25.  
 BIOLOGICAL LABORATORY TECHNIQUE—J. Brontë Gatenby—*Chem. Pub. of N. Y.*, \$3.  
 BIOLOGY FOR MEDICAL STUDENTS, New ed.—C. C. Hentschel and W. R. I. Cook—*Longmans*.  
 BIOLOGY FOR STUDENTS OF PHARMACY—E. P. Moore—*Longmans*.  
 BIOLOGY OF THE PNEUMOCOCCUS—Benjamin White—*Commonwealth*.  
 CONCORD RIVER—William Brewster—*Harvard*, \$3.50.  
 EMBRYONIC DEVELOPMENT AND INDUCTION—Hans Spemann—*Yale*, \$5.  
 GENERAL BIOLOGY STUDY-BOOK—Holger H. and Dorothy Van Aller—*Globe*, \$1.  
 GRASSROOT JUNGLES—Edwin Way Teale—*Dodd*, \$3.75.  
 THE HUMAN VALUE OF BIOLOGY—Johan Hjort—*Harvard*, \$3.  
 INTRODUCTION AND GUIDE TO HISTOLOGY AND MICROSCOPIC ANATOMY—A. E. Lambert—*Blakiston's*.  
 LABORATORY MANUAL FOR GENERAL BIOLOGY—Julia E. Rothermel—*Edwards*, \$2.95.  
 METHODS IN BIOLOGY—Alfred Charles Kinsey—*Lippincott*, \$2.50.  
 OUTLINE OF THE PRINCIPLES AND PRACTICE OF BACTERIOLOGY—A. H. Bryan—*Barnes & Noble*, \$1.  
 OYSTER BIOLOGY AND OYSTER CULTURE—J. H. Orton—*Longmans*, \$2.  
 PHYTOHORMONES—F. W. Went and K. V. Thimann—*Macmillan*, \$4.  
 THE REJUVENATED RABBIT—B. Belove—*Wetzel*, 25c.  
 SEASON, SEX AND GENIUS—Ellsworth Huntington—*Wiley*, \$3.50\*.  
 SEX MOSAICS AND CASTE MOSAICS AND OTHER ANOMALIES AMONG ANTS—Wm. M. Wheeler and Neal A. Weber—*Harvard*, \$2.  
 THE SOUL OF THE WHITE ANT—Eugene Marais—*Dodd*, \$2.50.  
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 TESTS IN BIOLOGY—Frederick L. Fitzpatrick—*Houghton*, 40c.  
 A TEXTBOOK OF BACTERIOLOGY, 7th ed. rev. (Rev. and rewritten from the original text of Hiss and Zinsser)—Hans Zinsser and Stanhope Bayne-Jones—*Appleton*, \$8.  
 A TEXTBOOK OF GENERAL BIOLOGY, 2nd rev. ed.—E. Grace White—*Mosby*, \$3.  
 WATCHING WILD LIFE—P. Bond—*Longmans*.  
 WORKBOOK AND LABORATORY MANUAL IN BIOLOGY FOR USE WITH ANY BIOLOGY TEXTBOOK—C. S. Hann and Mabel B. Stoddard—*College Entrance Book Co.*, 70c.  
 WORKBOOK AND LABORATORY MANUAL IN GENERAL BIOLOGY—Stiles, Glover and Newman—*College Entrance Book Co.*, 68c.

### Botany, Agriculture

- A B C OF AGROBIOLOGY—O. W. Willcox—*Norton*, \$2.75.  
 BRITISH STEM- AND LEAF-FUNGI (COELOMYCETES), Vol. II—W. B. Grove—*Cambridge (Macmillan)*, \$7\*.  
 COMMERCIAL FLORICULTURE, 4th Ed.—Fritz Bahr—*De La Mare*, \$5.50.  
 COUNTRY GARDEN—Ethel Armitage—*Macmillan*, \$3.  
 CROP MANAGEMENT AND SOIL CONSERVATION—J. F. Cox and L. E. Jackson—*Wiley*.  
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 ELEMENTS OF FORESTRY, 3rd ed.—F. F. Moon and N. C. Brown—*Wiley*, \$3.50.  
 FAMILIAR FLOWERS OF FIELD AND GARDEN, Rev. ed.—F. Schuyler Mathews—*Appleton*, \$2.50.  
 FLORA OF COSTA RICA—P. C. Standley—*Field Mus.*  
 FLORA OF PERU—VI—J. F. Macbride—*Field Mus.*  
 FOODS AMERICA GAVE THE WORLD—A. Hyatt Verrill and O. W. Barrett—*Page*, \$3.  
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 GARDEN IN COLOR—Louise Beebe Wilder—*Macmillan*, \$7.50.  
 GARDENING INDOORS—F. F. Rockwell and Esther C. Grayson—*Macmillan*.  
 GENUS BIDENS—I and II (2 vols.)—E. E. Sherff—*Field Mus.*  
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 NAMING OF PLANTS—Vera Higgins—*Longmans*, \$1.40.  
 NO PLANT DISEASE—Arnold Eiloart—*Humphries*, 75c.  
 NORTH AMERICAN ROCK PLANTS—W. H. A. Preece—*Macmillan*, \$3.50.  
 THE NORTH AMERICAN SPECIES OF RUMEX—K. H. Rechinger, Jr.—*Field Mus.*, \$1.50.



### HAVE YOU SEEN HER?

*Frosty fall weather always sets the giant mantises to wandering. Many of them blunder into cities, causing much mystification and a little mild terror. These huge insects are immigrants from Asia, but have become well acclimated and rather widely distributed in this country. Practically all of the specimens you are likely to see are females—they ate their mates long ago.*

- OUR TREES—Arthur I. Emerson—*Lippincott*.  
 PLANT CHEMICULTURE—C. D. Dawson and M. V. Dorn—*Research & Development Specialists*, \$1.  
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### PHILOSOPHY

## Civilization

● "Culture suggests agriculture, but civilization suggests the city. In one aspect civilization is the habit of civility; and civility is the refinement which townsmen, who made the word, thought possible only in the *civitas* or city. For in the city are gathered, rightly or wrongly, the wealth and brains produced in the countryside; in the city invention and industry multiply comforts, luxuries and leisure; in the city traders meet, and barter goods and ideas; in that cross-fertilization of minds at the crossroads of trade intelligence is sharpened and stimulated to creative power."—Will Durant in *THE FOUNDATIONS OF CIVILIZATION* (Simon and Schuster).

Science News Letter, October 23, 1937

### GENERAL SCIENCE

## Ignorance in Action

● "All people have attitudes. Unscientific people have attitudes of all sorts, which they have acquired by imitation and tradition from their parents, their friends, and their social class. These attitudes may be even more dynamic than the scientific attitude just because they have no intelligent basis and are therefore less subject to change. There is nothing more terrible than ignorance in action. A strong unreasonable prejudice, class or personal hatred, or insane fear bear frightful fruits of death, destruction, and persecutions."—Arthur Talbot Bawden—in *MAN'S PHYSICAL UNIVERSE* (Macmillan).

Science News Letter, October 23, 1937

### MEDICINE

## Royal Treatment

● "Once upon a time a king, while shaving, fell unconscious in his bedroom. The following treatment was employed by the royal physicians. A pint of blood was extracted from his right arm; then eight ounces from the left shoulder; next an emetic, two physics, and an enema consisting of 15 substances. Then his head was shaved and a blister raised on the scalp. To purge the brain a sneezing powder was given; then cowslip powder to strengthen it. Meanwhile more emetics, soothing drinks, and more bleeding; also a plaster of pitch and pigeon dung applied to the royal feet. Not to leave anything undone, the following substances were taken internally: melon seeds, manna, slippery elm, black cherry water, extract of lily of the valley, peony, lavender, pearls dissolved in vinegar, gentian root, nutmeg, and finally 40 drops of extract of human skull. As a last resort bezoar stone was employed.

# THE AUDI

But the royal patient died. . . . The unfortunate patient was Charles II, King of England."—Loren C. MacKinney in *EARLY MEDIEVAL MEDICINE* (Johns Hopkins Press).

Science News Letter, October 23, 1937

### GEOGRAPHY

## Blue-Prints

● "Russia today is like a house in construction. They cannot hide the dirt, disorder and atmosphere of improvisation which abounds in all building plots. If you are invited into a finished house, your host may refuse to show you the servants' quarters and the untidy rooms, and will try to boost with his nicely furnished lounge. When some of the walls are not yet more than heaps of bricks and the sky visible through the scaffolding of the future roof, all he can do is to show you his blue-prints and praise his architect's scheme of decoration. If you know something about it, you will be able to dispute his claims. If you don't, you could only notice his good intentions and let your own imagination do the rest. The opinion you will form will depend on your optimistic or pessimistic temperament and your idea of the man's abilities and *bona fide*. On the whole I had to complain more of the lack of interest shown for my curiosity and the apparent preoccupation of people, than of their zeal in guiding and advising me."—H. P. Smolka in *40,000 AGAINST THE ARCTIC* (Morrow).

Science News Letter, October 23, 1937

### ORNITHOLOGY

## Quieting Sound

● "Twilight was deepening into night when I turned back and entered the large pasture just beyond Clark's but the Grass Finches (two of them) were still singing there. Approaching within 20 yards of one which I could dimly see sitting on a large boulder, I lay down on the turf and listened until it ceased. One must be very near this bird to get the best effect of its song. I know of no other sound in Nature which so rests and soothes me. It is like the touch of a soft hand and steals through all the senses, quieting the nerves and bringing peace and rest."—William Brewster in *CONCORD RIVER* (Harvard University Press).

Science News Letter, October 23, 1937



# DOCTORS SAY:

## ZOOLOGY

### Monkey Patients

● "Monkeys, as might be expected, give plenty of trouble when they are sent to the hospital for fractured limbs. It is not monkey nature, apparently, to let well enough alone; they have to be restrained by all sorts of ingenious devices from removing their bandages out of pure curiosity. A brown capuchin monkey that broke its arm above the elbow was so insistent on working at the bandages with its teeth that finally a light, but broad, wooden collar was locked around the animal's neck and then it could no longer reach the damaged place."—Raymond L. Ditmars and William Bridges in *WILD ANIMAL WORLD* (Appleton-Century).

*Science News Letter, October 23, 1937*

## ASTRONOMY

### Most Impressive

● "The gradual darkening of the sun in full daylight, culminating in its complete obscuration for a few minutes, followed by an equally slow return to complete brightness, has in previous ages brought alarm and apprehension. Among savage tribes the beating of tom-toms and other incantations are still used to propitiate the dragon which is supposed to devour the sun. Even now in India, where eclipses are predicted in the local press, ancient ceremonies are still carried through as a matter of ritual. It is no wonder that animals are disturbed, and that birds sometimes go to roost. Though the cause is completely understood, a total eclipse of the sun is a most impressive and awe-inspiring spectacle to every intelligent beholder."—Sir Frank Dyson and R. v. d. R. Woolley in *ECLIPSES OF THE SUN AND MOON* (Oxford).

*Science News Letter, October 23, 1937*

## PUBLIC HEALTH

### Wishful Thinking

● "The syphilis problem of its very nature is admittedly difficult. It can be shown that this particular lag in our national performance is due neither to lack of medical skill in this country nor in failure to appreciate the value of public health. Since 1900 our tuberculosis rate, for example, has been cut two-thirds; our diphtheria rate by nine-

tenths; the typhoid rate practically to the vanishing point. But the fact remains that we have not attacked syphilis as we have attacked these and many other plagues. For the most part, we have been content with wishful thinking. . . . Records in my office show that health department, hospital department and voluntary hospital clinics in New York City report 35,926 cases of syphilis actually diagnosed in New York City for 1936; that when supplemented by laboratory reports, this reaches a total of 67,010 cases."—Thomas Parran in *SHADOW ON THE LAND* (Reynal & Hitchcock).

*Science News Letter, October 23, 1937*

## DENTISTRY

### Chief Factors

● "Diet and exercise, the use to which the teeth are put, constitute the two chief factors in the preservation and maintenance of a perfect and healthy dentition. When diets that are deficient in mineral salts and vitamin D are strictly adhered to, the teeth begin to decay but this decay can be stopped if vitamin D is added to the diet. If the same sort of inadequate diet is given to the child while the teeth are forming, they will be of defective structure or carious or both."—Cleveland Sylvester Simkins in *HISTORY OF THE HUMAN TEETH* (Blakiston's).

*Science News Letter, October 23, 1937*

## BIOGRAPHY

### First Cure

● "About this time (1876) I first began to have an inkling of the alcohol problem. I saw alcoholic patients getting drunk even in the asylum itself, and delirious patients, when they were discharged, went into the nearest tavern and drank themselves ill again. Gudden, in his fatalism, regarded this as inevitable. But the more I saw of it the more painfully it distressed me.

"In my ward there was an elderly toper, Augustin by name, who when sober was a perfectly respectable and useful member of society. A glazier by trade, he continued to exercise his calling in the asylum, but he drank even the spirit which he needed for his work. I spoke to him seriously, and with his consent I put tar or something of that sort into the spirit, in order to make it nauseous. And in this way I actually succeeded in making him an almost total abstainer. Such a thing had never been known in Munich."—August Forel in *OUT OF MY LIFE AND WORK* (Norton).

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